

A NEW SPECIES OF MACROPHYA (HYMENOPTERA, TENTHREDINIDAE) WITH A KEY TO SPECIES OF COXALIS GROUP FROM CHINA

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Abstract *Macrophya oligomaculella* Wei et Zhu, sp. nov. is described from China. A key to the Chinese species belonging to *coxalis* group is provided. The type specimens are deposited in the Insect Collection of Central South University of Forestry and Technology, Changsha, Hunan, China.

Key words Hymenoptera, Tenthredinidae, *Macrophya* Dahlbom, new species, China.

In the investigation of the sawfly fauna of Nanling Mountain, Southern China, a new species of *Macrophya* Dahlbom was found from North Guangdong and South Hunan Provinces. It is described here. A key to the new species and its relatives is provided. The type specimens are deposited in the Insect Collection of Central South University of Forestry and Technology, Changsha, Hunan, China.

1 *Macrophya oligomaculella* Wei et Zhu, sp. nov. (Figs. 1–4)

Female (Figs. 1–2). Body length 10 mm. Black; clypeus except base, labrum, basal half of mandible, palpi, posterior margin of pronotum, anterior margin of tegula, posterior margin of first abdominal tergite, lateral macula on each of second to fourth abdominal tergites, tenth abdominal tergite largely, yellow white. Legs black, apex of each coxa, a large spot on outer side of each coxa, trochanters, a stripe on anterior side of fore and of middle femur, anterior side of fore tibia and tarsus, most part of anterior side of middle tibia, preapical 3/5 of hind tibia on outer side, white; dorsal side of fore and of middle trochanter with a black spot. Body hairs silver, sheath hairs pale brown. Wings hyaline, apical half slightly grayish, stigma and veins black.

Head above antennal sockets densely punctured with distinct shining interspaces; temple with a shining patch, posterior orbit sparsely and minutely punctured; clypeus shining without microsculptures. Mesonotum densely punctured with shining interspaces; mesoscutellum with large punctures, interspaces distinct and shining; posttergite with a few large punctures and without microsculptures; metanotum polished, strongly shining; mesepisternum coarsely and densely punctured, mesanepimeron densely microsculptured, mesokatepimeron largely polished; metepisternum minutely and densely punctured on upper half and

sparsely on lower half; metepimeron largely polished, with a few punctures and microsculptures. Most part of first abdominal tergite strongly shining with sparse and shallow punctures on lateral sides, other tergites with minute punctures and fine microsculptures, shining; dorsal side of hind coxa coarsely, outer side of hind femur and of hind tibia densely punctured.

Clypeus short, broader than distance between eyes below, lateral margins distinctly convergent forwards, anterior incision very broad with depth up to 1/3 length of clypeus, bottom broad and round, lateral lobes slightly protruding, not acute at apex; labrum large and broad, apex obtusely truncate; malar space distinct but narrower than radius of an ocellus; lateral and middle foveae vestigial; frons slightly elevated, slightly below top of eyes, frontal wall absent; postocellar area broader than long as 1.3:1.0, posterior part distinctly declined; lateral furrows fine and shallow, distinctly divergent backwards, postocellar furrow indistinct; head behind eyes in dorsal view very short and strongly narrowed, occipital carina complete. Antenna slightly shorter than abdomen, pedicellum slightly longer than broad, third segment about as long as fourth and fifth segments together, fifth to eighth segments distinctly dilated, each of 6th and 7th segments less than 1.5 times as long as broad. Mesoscutellum pyramidally elevated and distinctly beyond top of mesonotum, without distinct carina; posttergite with a high and sharp middle carina; metapostnotum with a sharp middle carina; posterior corner of metepimeron distinctly elongated and oblique, punctured, without distinct basin but with a cluster of pubescence. Inner tibial spur of hind leg clearly longer than half length of hind basitarsus, hind basitarsus as long as following 4 tarsomeres together; claw without basal lobe, inner tooth slightly broader and shorter than outer tooth (Fig. 3). Vein $r+m$ in fore wing as long as vein cu_a , cell 2Rs slightly longer than 1Rs, cu_a joining

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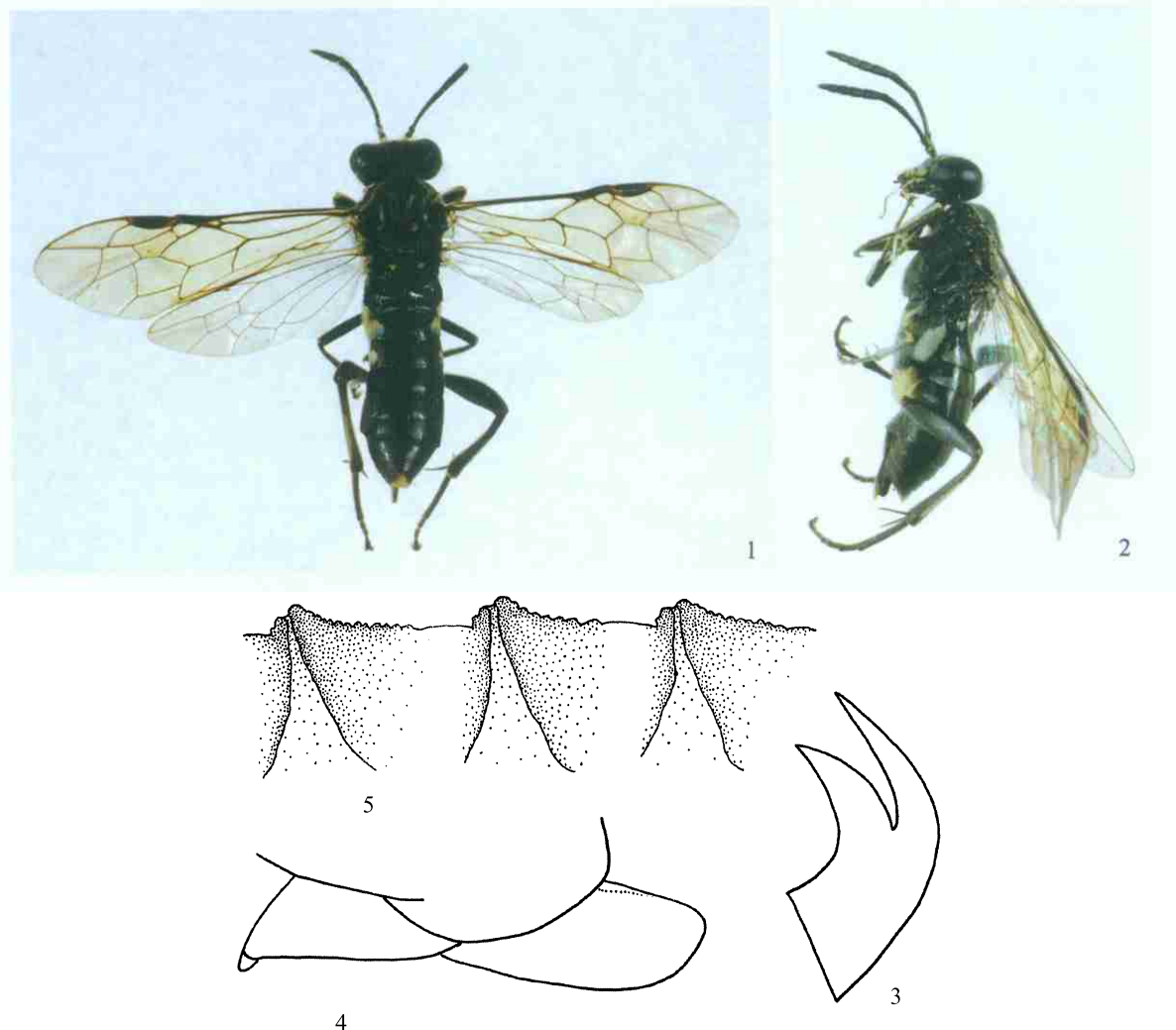
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cell 1M at basal 1/5, middle petiole of anal cell as long as first abscission of vein Rs. Anal petiole of hind wing as long as half length of *cra*, *cra* curved slightly and strongly oblique outwards. Ovipositor slightly shorter than hind basitarsus, sheath narrow and much longer than basal plate, rounded at apex (Fig. 4), with short

and slightly curved hairs. Lancet with 21 serrulae, middle serrulae long and flat, slightly protruding, with 2 inner and 12 outer subbasal teeth, membranous part between serrulae flat and about half length of a serrula, annular spines sparse, 9th to 11th serrulae as in Fig. 5.

Male. Unknown.



Figs 1-5. *Macrophyia digmaculella* Wei & Zhu, sp. nov. 1. Female adult, dorsal view. 2. Female adult, lateral view. 3. Claw. 4. Female sheath. 5. The 9th and 11th serrulae of female.

Etymology. The specific epithet of the species is derived from the Latin words “*oligo*” meaning “a few”, “*macul*” meaning “spot” and “*-ella*” meaning “small”, indicating the color pattern of abdomen, which is black with a few white spots in lateral sides.

Holotype ♀, Chebaling (24° 40' N, 114° 09' E; 40 m), Shixing, Guangdong Province, 13 Apr. 2007, collected by ZHU Xiao-Ni. **Paratypes:** 1 ♀, Mt. Mang (1 000 m), Yizhang, Hunan Province, 15 Apr. 2003, collected by XIAO Wei; 1 ♀, Guizhizhai (1 090 m), Mt. Mang, Yizhang, Hunan Province, 23 Apr. 2006, collected by CHENG Zhen-Fei.

Remarks. *M. oligomaculella* is a member of *coxalis* group and it is similar to *M. paraminutifossa* Wei et Nie,

2003 but differs from the latter species in following: 1) the postocellar area broader than long as 1.3: 1.0; 2) the mesoscutellum pyramidally elevated with a distinct peak and distinctly beyond top of mesonotum; 3) the posttergite with a sharp middle carina; 4) the preapical 3/5 of the posterior tibia with a long white stripe; 5) the dorsal sides of fore and middle trochanters each with a distinct black macula; 6) the lateral white spots on the abdominal tergites 2-4 strongly lessened caudad; 7) the appendage of metepimeron flat and larger than an ocellus; 8) the middle petiole of anal cell in fore wing clearly shorter than vein 1r-m (in *M. paraminutifossa* the postocellar area 2 times broader than long, the mesoscutellum roundly elevated without a distinct peak

and not beyond top of mesonotum, the posttergite with an low and obtuse middle carina, the apical 1/3 of the posterior tibia with a short white stripe, the dorsal sides of fore and middle trochanters white entirely, the lateral white spots on the abdominal tergites 2-4 almost equal in size, the appendage of metepimeron concave and as large as an ocellus, the middle petiole of anal cell in fore wing as long as vein 1r-m).

2 The *coxalis* group of *Macrophya* Dahlbom

In *Macrophya*, species of *coxalis* group share following characters: body black with white maculae but without metallic tinge; clypeus short and broad with a shallow anterior incision, the lateral lobe not acute, clypeus and labrum largely or entirely white; the posterior corner of metepimeron elongated with a distinct appendage, which with a pilose and punctured basin; the first abdominal tergite largely shining, other tergites with or without microsculptures, distinctly shining; the anal cell of fore wing with a distinct middle petiole; antenna black entirely; legs black and white without any red, hind tarsus black without white macula; fore wing hyaline to subhyaline, apical half sometimes slightly infuscate, vein C and stigma black or black brown; the middle serrulae of female lancet long and oblique, weakly protruding. As defined here, the *coxalis* group includes following Chinese species: *M. coxalis* Motschulsky, 1866 (Takeuchi, 1937), *M. albarmulata* Wei et Nie, 1998 (Wei and Nie, 1998a), *M. hyaloptera* Wei et Nie, 2003, *M. minutifossa* Wei et Nie, 2003, *M. paraminutifossa* Wei et Nie, 2003 (Wei and Nie, 2003), *M. trimicralba* Wei, 2006 (Wei, 2006) and *M. oligomaculella* Wei et Zhu, sp. nov. *M. histrioides* Wei, 1998 and *M. sheni* Wei, 1998 (Wei et Nie, 1998b), *M. histrio* Malaise, 1945 (Malaise, 1945), *M. regia* Forsius, 1930 (Forsius, 1930), *M. xiaoi* Wei et Nie, 2003 and *M. maaulodypeatina* Wei et Nie (Wei and Nie, 2003), *M. xanthosoma* Wei, 2005 (Wei et Xiao, 2005) are not included in *coxalis* group as they do not fit the above definition of the group. The known species of *coxalis* group from China can be keyed out as in following key.

Key to known species of *coxalis* species group from China

1. Abdomen black without lateral white spots; hind coxa in both sexes without a white lateral macula; basin in metepimeron very deep with posterior margin as broad as radius of ocellus and strongly elevated; frons and mesepisternum coarsely and densely punctured; penis valve with a long ergot almost half length of valviceps *M. coxalis* **Motschulsky, 1866** ♀
Abdomen with distinct lateral white spots or posterior margins of abdominal tergites white; hind coxa in female with a large lateral white macula; basin in metepimeron shallow or flat with posterior margin very narrow or absent, hardly elevated 2
2. Hind tibia without white stripe; frons and nearby coarsely punctured; abdominal tergites 2-4 each with a lateral white spot; hind coxa in male without white lateral macula; ergot of penis valve short and about as long as 1/3 length of valviceps
..... *M. minutifossa* **Wei et Nie, 2003** ♀, ♂
Hind tibia with a distinct white stripe 3

3. Fore and middle trochanters in female black, all trochanters white in male; frons and nearby shallowly and evenly punctured, interspaces between punctures about as large as a puncture; white stripe on hind tibia short, about 1/4-1/5 length of hind tibia; ergot of penis valve in male long, almost half length of valviceps; abdomen with 3 lateral white spot on tergites 2-4 *M. hyaloptera* **Wei et Nie, 2003** ♀, ♂
All trochanters white in both sexes, seldom with a black spot on dorsal side in fore and middle trochanters; frons densely punctured, interspaces smaller than punctures, usually linear; white stripe on hind tibia usually longer than half length of hind tibia, if shorter then frons and inner orbits coarsely and densely punctured; ergot of penis valve in male short, about 1/3 length of valviceps 4
4. Mesepisternum and mesoscutellum each with a white spot; interspaces between punctures on frons and nearby distinct; mesoscutellum evenly elevated, almost flat; posterior margins of abdominal tergites mostly white. Male unknown *M. trimicralba* **Wei, 2006** ♀
Mesepisternum and mesoscutellum black without white spot; interspaces between punctures on frons and nearby linear; mesoscutellum distinctly elevated 5
5. Posterior margins of abdominal tergites narrowly white which less than half length of each tergite; base of hind femur distinctly yellow white; white stripe on hind tibia longer than half length of tibia; frons flat and depressed, distinctly below top of eyes; penis valve round at apex; appendage of metepimeron larger than ocellus distinctly
..... *M. albarmulata* **Wei et Nie, 1998** ♀, ♂
Abdominal tergites 2-5 each with a lateral white spot, lateral spot on tergite 2 much broader than half length of tergite, tergites 6-9 entirely black; base of hind femur black; frons clearly elevated, almost as high as top of eyes; male unknown 6
6. Trochanters white without any black; mesoscutellum roundly elevated without peak; white stripe on hind tibia about 1/3-1/4 length of tibia; lateral white spots on abdominal tergites 2-4 subequal in size; appendage of metepimeron concave and as large as an ocellus
..... *M. paraminutifossa* **Wei et Nie, 2003** ♀
Fore and middle trochanters each with a black spot on dorsal side; mesoscutellum elevated pyramidally with a distinct peak; white stripe on hind tibia about 3/5 length of tibia; lateral white spots on abdominal tergites 2-4 strongly lessened caudad; appendage of metepimeron flat and larger than an ocellus
..... *M. oligomaculella* **Wei et Zhu, sp. nov.**

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中国钩瓣叶蜂属（膜翅目，叶蜂科）一新种及 *coxalis* 种团中国种类检索表

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摘 要 记述中国钩瓣叶蜂属 1 新种：寡斑钩瓣叶蜂 *Macrophya oligomaculella* Wei et Zhu, sp. nov.。该种与 *M. paraminutifossa* Wei et Nie, 2003 相似，但新种单眼后区宽 1.3 倍于长，中胸小盾片强烈隆起，明显高出背板顶面，具突出的顶点，附片具锐利中纵脊，后足胫节背侧白色条斑等长于胫

关键词 膜翅目，叶蜂科，钩瓣叶蜂属，新种，中国.

中图分类号 Q969.542.6

节 2/3 长，前中足转节背侧具明显黑斑，腹部 2~4 背板侧白斑向尾部迅速变小，后胸后侧片附片较大且平坦，前翅臀室收缩中柄明显短于 1r_m 脉等与后者不同。简要讨论了 *coxalis* 种团的特征，编制了 *coxalis* 种团中国已知种类分种检索表。新种模式标本保存在中南林业科技大学昆虫模式标本室。

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